

ABSTRACT

Disclosed is an optical add/drop multiplexer connected to an optical fiber for transmission of a multiplexed optical signal, and adapted to add a channel to the optical signal or to drop a channel from the optical signal. The optical add/drop multiplexer includes a wavelength division multiplexing/ demultiplexing (WDM) unit connected to the optical fiber, having input and output ports providing a path for a multiplexed optical signal, and a plurality of demultiplexing ports respectively providing paths for demultiplexed channels. A plurality of add/drop multiplexer (ADM) units respectively connected to the demultiplexing ports of the WDM unit, each of the ADM units including first and second circulators each adapted to output a channel, input to a higher-order port thereof, to a lower-order port, and a reflector for passing or reflecting a channel inputted thereto. The first circulator receives a channel at a second port and outputs the channel to a third port connected to the reflector. The first circulator receives, at the third port, the channel from the reflector, and outputs the secondarily received channel to a fourth port, thereby dropping the channel. The second circulator receives a channel at a first port, outputs the received channel to a second port connected to the reflector, receives, at the second port thereof, the channel from the reflector, and outputs the secondarily received channel to a third port connected to a first port of the first circulator, thereby adding the channel.